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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,913	10/04/2004	Mark Raymond Zaacks	ZAACKS3	4481

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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/509,913	Applicant(s) ZAACKS ET AL.	
	Examiner Tu T. Nguyen	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/04/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

Claims 1,11 are objected to because of the following informalities:

a) In claim 1, line 7, the claimed "the carrier wavelength" should be corrected to "a carrier wavelength" to avoid lacks of antecedence basis. This correction also in accordance with the claimed "a carrier wavelength" stated in claim 13, lines 3-4.

b) In claim 11, line 3, the claimed "the receiver" should be corrected to "the receiving node" stated in claim 8, line 9.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3,4,13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) In claim 3, lines 4-5, the claimed "up to the opposite sign ... communication line" is ambiguous. It is not clear if it is the "dispersion increment" that should be incremented up to the opposite sign, or if it is the repeating step that is repeated up to the opposite sign.

2) In claim 4, lines 7-8, refer to discussion in claim 3 above.

3) In claim 13, the dependency of claim 13 is not clear. It is not clear if claim 13 should be interpreted as an independent claim or as a dependent claim. Furthermore, it

is not clear if it is the "receiving node" or if it is the "transmitting mode" that should have the structure of claim 8. Moreover, claim 13 fails to further limit claim 8 because it states the limitation already stated in claim 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi et al (5,406,368) in view of Aoki et al (2002/0122171).

With respect to claims 1, 8, 13, Horiuchi discloses a method for measuring chromatic dispersion in an optical fiber. The method comprises: introducing controlled changes of wavelengths 2 (fig 1) (column 6, lines 24-30) around a predetermined wavelength 16 (fig 1); a first signal 1 (fig 1); a second signal 7 (fig 1) (column 6, lines 30-35 or abstract) reflecting changes of delay of the signal transmitted via the fiber; determining the chromatic dispersion 13 (fig 1) based on the phase difference 8 (fig 1) between two signals.

Horiuchi does not disclose the claimed first signal reflecting changes of the carrier wavelength. However, Horiuchi discloses obtaining a change in the propagation time of each signal caused by a change in the wavelength of the second signal 2 (fig 1) (abstract): It would be obvious to modify Horiuchi's first signal 1 (fig 1) to reflect the

changes of the wavelength of the signal as claimed to identify when the second signal changes to different wavelength to calculate the change in the propagation time of each signal easier.

Horiuchi does not disclose determining the chromatic dispersion sign. Aoki discloses a method for determining the chromatic dispersion sign of a fiber (abstract). It would have been obvious to modify Horiuchi to determine the chromatic dispersion sign as taught by Aoki to compensate the degradation of the data signal easier.

With respect to claims 2,9, Horiuchi does not disclose the second signal reflecting changes of delay of the data transmitted signal as claimed. However, it would have been obvious to modify Horiuchi's second signal to reflect changes of delay of the data transmitted signal to measure different characteristics of the signal.

With respect to claims 3-5,11, Aoki does not disclose compensating the chromatic dispersion as claimed. However, it would have been obvious to modify Horiuchi's system with the claimed compensation function to compensate the chromatic dispersion and to keep dispersion of the communication line close to a specific value as claimed to ensure the quality of the data signal. Further, the claimed specific value could be chosen to be zero as claimed in claim 11.

With respect to claim 6, the skill artisan would have been motivated to perform the method as taught by Horiuchi continuously and automatically to enhance the system performance.

With respect to claims 7,12, it would have been obvious a design choice to modify Horiuchi by changing the wavelength of the signal to be transmitted in a periodic manner as claimed for using the system in different environments.

With respect to claims 10,14, it would have been obvious to modify Horiuchi with a compensation unit which controlled by the phase comparator to compensate the dispersion of the signal and to keep the phase difference at a constant value to reduce the transmission noise.

With respect to claim 16, using a PLL in a circuit board would have been known in the art. It would have been obvious to modify Horiuchi's phase comparator 8 (fig 1) with the known PLL to facilitate the measuring. The modification involve only routine skill in the art.

Claim 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horiuchi et al (5,406,368) in view of Aoki et al (2002/0122171) and Hoyer (6,614,513).

With respect to claim 15, Horiuchi does not disclose the claimed AM modulation and AM demodulation. Hoyer discloses a system for measuring chromatic dispersion of

a transmission link. The system comprises an AM modulation and demodulation (abstract). It would have been obvious to modify Horiuchi with the AM modulation and demodulation as taught by Hoyer to facilitate the measuring.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu T. Nguyen
Primary Examiner
Art Unit 2877

06/15/2005